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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,574	01/20/2004	Eric Robert Bechhoefer	BFM-01702	1048
26339	7590	01/19/2006	EXAMINER	
MUIRHEAD AND SATURNELLI, LLC 200 FRIBERG PARKWAY, SUITE 1001 WESTBOROUGH, MA 01581			CHARIOUI, MOHAMED	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,574

Applicant(s)

BECHHOEFER ET AL

Examiner

Mohamed Charioui

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 181-212 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 186, 198, 202 and 205 is/are allowed.
- 6) ☒ Claim(s) 181-185, 187-197, 199-201, 203, 204 and 206-212 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Applicant cancelled claims 1-180.

DETAILED ACTION

Specification

2. The disclosure is objected to because of the following informalities: In page 41, it is not clear whether (d, d^{-1}) is a 2x2 matrix or not. If it is a 2x2 matrix, Applicant is required to add the missing matrix elements. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 181-185, 187-197 and 199-201, 203, 204 and 206-212 are rejected under 35 U.S.C. 102(b) as being anticipated by Bjork et al. (U.S. 5,128,619).

As per claims 181, 183, 187, 193, 195, 199 and 201, 203, 204 and 206-212, Bjork et al. teach processing a received waveform in accordance with signal propagation modeling in said wire producing a processed waveform (see col. 5, line 66 to col. 6, line 40); fitting each of a plurality of functions to a portion of data points representing the processed waveform, wherein each of the plurality of functions is a localized curve fitting of the portion of data points that approximates values of the data points in the portion (see col. 6, line 66 to col. 7, line 27); determining a characteristic (i.e. derivative) of each of the plurality of functions (see col. 2, lines 12-14); evaluating the characteristic of each of the plurality of functions at data points representing the

processed waveform (see col. 2, lines 12-16); and detecting an event using the characteristic of each of the plurality of functions (see col. 2, lines 16-25). Regarding claim 193, Bjork et al. further teach a computer program product to perform the claimed invention (see col. 2, lines 40-63 and col. 7, lines 22-33).

As per claims 182 and 194, Bjork et al. further teach compensating the received waveform prior to fitting a plurality of functions (see col. 6, lines 15-30).

As per claims 184 and 196, Bjork et al. further teach storing data of the waveform in accordance with the event detected (see col. 7, line 66 to col. 8, line 35).

As per claim 185 and 197, Bjork et al. further teach classifying the event (see col. 5, lines 55-66).

As per claims 188-192 and 200, Bjork et al. further teach determining at least one peak using characteristic that exceeds the event detection threshold (see col. 6, line 66 to col. 7, line 46); storing data corresponding to the at least one peak (see col. 7, lines 55-66); and classifying the data as one of a plurality of events (see col. 7, line 66 to col. 8, line 35).

Allowable Subject Matter

4. **Claims 186, 198, 202 and 205** are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 186 and 198, none of the prior art of record teaches or suggests that the portion of data points has $N+M+1$ data points, N representing a number of data points prior to a first one of said data points included in said portion, M

representing a number of data points after the first one of the data points included in said portion, and determining a first of the plurality of functions in accordance with the $N+M+1$ data points, in combination with the rest of the claim limitations.

Regarding claims 202 and 205, none of the prior art of record teaches or suggests fitting each of a plurality of polynomials to a portion of data points representing a received waveform, the portion of the data points including a number of data points in accordance with a selected window size, wherein the data points included in the portion include a designated data point and a specified number of data points relative to said designated data point, in combination with the rest of the claim limitations.

Response to Arguments

5. Applicant's arguments filed 4/7/05 with respect to claims 181, 193, 201, 203, 204 and 206 have been fully considered but they are not persuasive.

Regarding Applicant's argument of amended claims 181, 193, 201, 203, 204 and 206, Examiner sees that each polynomial is a localized curve fitting of the portion of data points that approximates values of the data points in the portion is taught by Bjork et al. (see col. 6, line 67 to col. 7, line 36) where the height of the pulse is estimated using the point where the slope began to become negative~going at the start of the pulse for a 1000 ns, so the neighborhood of this point is considered to be the portion of the point and the equation in col. 7, line 20 is considered local curve fitting of that portion. Examiner maintains the rejection of claims 181-185, 187-197 and 199-201, 203, 204 and 206-210.

Regarding Applicant's argument of claims 208 and 210, Examiner sees that Bjork calculates the threshold, therefore, Examiner considers that these thresholds are statistical.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

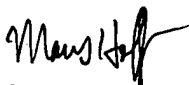
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

1/9/06


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
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